Environmental Science

A COMPARISON OF DAY VERSUS NIGHT ELECTROFISHING DUIRNG A BIOASSESSMENT OF FISH POPULATIONS IN THE OHIO RIVER.

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The effectiveness of day versus night electrofishing was examined during a bioassessment of the Ohio River. Since 1971, The Thomas More College Field Station located in Campbell County, Kentucky has been conducting research on the fish populations near two coal-burning power plants both located on the banks of the Ohio River, just upstream of Cincinnati, Ohio. Much of this research includes the collection of fish by electrofishing methods. Traditionally (from 1971-2000), collections were made during the day. However, this past summer, the switch was made to night electrofishing. Standardized methods were employed and similar sites sampled to compare the sampling effectiveness of the different catches (day versus night) and observe potential diel movements of fish to and from near-shore waters. Throughout the month of July 2001, electrofishing was performed twice a week on Tuesday and Thursday evenings (from 9:00 pm-12:00 am). The data were examined to determine differences in species richness, composition and similarity. Overall, community similarity indices revealed a high degree of similarity between the day and night collections; however, species richness and diversity levels were significantly higher in the night collections as compared to data collected in the same areas during the day. In addition to the species typically collected during the day, the night collections yielded many more crepuscular species such as *Micropterus punctulatus* and *M. salmoides*, several catosotmids, *Moxostoma anisurum*, *M. duquensei* and *M. macrolepidotum*, and more cyprinid species such as *Notropis atherinoides*, *N. blennius* and *N. wickliffi*.